Listing of Claims:

Claim 1 (previously presented). A method of managing network elements in an optical network at a node in the network, comprising:

providing a network element independent module that includes functions for managing different types of network elements;

providing one or more network element dependent modules that include functions for managing a specific type of network element and is in communication with the network element independent module;

providing a network management application that is in communication with the network element independent module and calls the functions of the network element independent and dependent modules to manage a plurality of network elements in a network;

receiving at the node a message indicating that there is a new network element in the network;

sending a request to the new network element for information about the new network element;

initializing the network element independent module for the new network element;

determining if the new network element corresponds to one of the network element dependent modules accessible by the network management application;

utilizing one of the network element dependent modules to manage the new network element if the new network element corresponds to one of the network element dependent modules accessible by the network management application; and

receiving from the new network element and storing a new network element dependent module if the new network element does not correspond to one of the network element dependent modules accessible by the network management application;

wherein the new network element dependent module, network element independent module, and network management application are stored at the node so that the node is operable to communicate directly with the new network element.

Claim 2 (original). The method of claim 1, wherein the functions of the network element dependent module are executable at run time through dynamic class loading.

Claim 3 (original). The method of claim 1, wherein the network element dependent module includes specifications of the network element.

Claim 4 (original). The method of claim 3, wherein the specifications include a graphical representation of the network element.

Claims 5-8 (canceled).

Claim 9 (previously presented). A method of managing network elements in an optical network at a node in the network, comprising:

receiving at the node a message indicating that there is a new network element in the network;

sending a request to the new network element for the specific type of the network element;

determining if the new network element is compatible with a specific type of another network element on the network;

if the specific type of the network element is compatible with the specific type of another network element on the network, utilizing a stored network element dependent module;

if the specific type of the network element is not compatible with the specific type of another network element on the network:

sending a request to the new network element for a network element dependent module that includes functions for managing the specific type of the network element;

executing the network element dependent module to create an interface to the network element; and

utilizing the interface to manage the network element;

wherein the network element dependent module is executed at the same node running a network management application.

Claim 10 (canceled).

Claim 11 (original). The method of claim 9, further comprising sending a request to the network element for the software version of the network element.

Claim 12 (canceled).

Claim 13 (original). The method of claim 9, further comprising receiving an object change message that there is a new network element on the network.

Claims 14-21 (canceled).

Claim 22 (previously presented): The method of claim 1 further comprising receiving a message indicating a topology change in said network and identifying said new network element.

Claim 23 (canceled).

Claim 24 (previously presented): The method of claim 1 wherein the network element dependent module comprises functions that support network element dependent communication protocols.

Claim 25 (previously presented): The method of claim 24 wherein the network element dependent communication protocols are management protocols.

Claim 26 (previously presented): The method of claim 1 wherein sending a request for information about the new network element comprises sending an HTTP message.

Claims 27-29 (canceled).

Claim 30 (previously presented): A computer-readable storage medium encoded with a computer program for managing network elements at a network management node in a network, the network comprising a plurality of network elements including one or more edge devices, the computer program comprising:

code that operates an element independent module including functions for managing different type of network elements in the network;

code that operates one or more network element dependent module that support network element dependent functions and network element dependent communication protocols;

code that operates a network management application in communication with the network element independent module and operable to call the functions of the network element independent and dependent modules to manage said plurality of network elements in the network;

code that receives at the network management node an object change message indicating that there is a topology change in the network and identifying a new network element;

code that stores information on said plurality of network elements and the new network element including path information for communicating with the network elements;

code that sends a request to the new network element for information about the new network element;

code that initializes the network element independent module for the new network element;

code that determines if the new network element corresponds to one of the network element dependent modules accessible by the network management application;

code that utilizes one of the network element dependent modules to manage the new network element if the new network element corresponds to one of the network element dependent modules accessible by the network management application; and

code that receives from the new network element and stores a new network element dependent module if the new network element does not correspond to one of the network element dependent modules accessible by the network management application;

wherein the new network element dependent module, network element independent module, and network management application are stored at the network management node so that the node is operable to communicate directly with the new network element.

Claim 31 (previously presented): The computer-readable storage medium of 30 wherein the functions of the network element dependent module are executable at run time through dynamic class loading.

Claim 32 (previously presented): The computer-readable storage medium of claim 30 wherein the network element dependent module includes specifications of the network element.

Claim 33 (previously presented): The computer-readable storage medium of claim 32 wherein the specifications include a graphical representation of the network elements.

Claim 34 (previously presented): The computer-readable storage medium of claim 30 wherein sending a request for information about the new network element comprises sending an HTTP message.

Claim 35 (previously presented): The computer-readable storage medium of claim 30 wherein code that receives and stores a new network element dependent module comprises code that generates a common object request broker interface to the new network element.

Claim 36 (previously presented): The method of claim 1 wherein the node is a network management node configured for managing said plurality of network elements in the network and the new network element is an edge device in communication with a metro network element.

Claim 37 (previously presented): The method of claim 1 wherein receiving a message indicating that there is a new network element in the network comprises listening to network traffic and receiving a topology-related object change message identifying the new network element.

Claim 38 (previously presented): The method of claim 37 further comprising extracting information about the new network element from the object change message and storing said information along with a shortest path for communicating with the new network element.

Claim 39 (previously presented): The method of claim 1 wherein receiving and storing a new network element dependent module further comprises creating an interface to the new network element.